[4910-13-U]

DEPARTMENT OF TRANSPORTATION

Federal Aviation Administration

14 CFR Part 39 [66 FR 15022 3/15/2001]

[Docket No. 99-NE-43-AD; Amendment 39-12143; AD 99-18-18 R1]

RIN 2120-AA64

Airworthiness Directives; Dowty Aerospace Propellers Model R381/6-123-F/5 Propellers

AGENCY: Federal Aviation Administration, DOT.

ACTION: Final rule.

SUMMARY: This amendment revises an existing airworthiness directive (AD) that is applicable to Dowty Aerospace Propellers Model R381/6-123-F/5 propellers, that requires initial and repetitive visual and ultrasonic inspections of propeller blades for cracks across the camber face, and, if blades are found cracked, replacement with serviceable blades. This amendment is prompted by an engineering analysis of field service data and certification testing that indicate that the repetitive visual inspection interval can be safely increased and that the ultrasonic inspections can be eliminated. The actions specified in this proposed AD are intended to detect propeller blade cracks and propagation, which if not detected could result in propeller blade separation and possible aircraft loss of control.

DATES: Effective April 19, 2001. The incorporation by reference of certain publications listed in the regulations is approved by the Director of the Federal Register as of April 19, 2001.

ADDRESSES: The service information referenced in this AD may be obtained from Dowty Aerospace Propellers, Anson Business Park, Cheltenham Road East, Gloucester GL29QN, England; telephone: 44 1452 716000, fax: 44 1452 716001. This information may be examined at the FAA, New England Region, Office of the Regional Counsel, 12 New England Executive Park, Burlington, MA, or at the Office of the Federal Register, 800 North Capitol Street, NW, suite 700, Washington, DC.

FOR FURTHER INFORMATION CONTACT: Kirk Gustafson, Aerospace Engineer, Boston Aircraft Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803-5299; telephone: 781-238-7190, fax: 781-238-7199.

SUPPLEMENTARY INFORMATION: A proposal to amend part 39 of the Federal Aviation Regulations (14 CFR part 39) by revising AD 99-18-18, Amendment 39-11284 (64 FR 47661, September 1, 1999), which is applicable to Dowty Aerospace Propellers Model R381/6-123-F/5 propellers, was published in the **Federal Register** on August 21, 2000 (65 FR 50667). The action proposed to increase the propeller blade crack inspection intervals. For repetitive visual inspection intervals, the proposed increase was from 50 to 300 hours time-in-service (TIS) since last inspection, and for repetitive ultrasonic inspection intervals the proposed increase was from 200 to 600 hours TIS.

Comment Received

Interested persons have been afforded an opportunity to participate in the making of this amendment. Due consideration has been given to the comment received.

Eliminate Ultrasonic Inspection and Increase Inspection Interval

A comment from the manufacturer recommends elimination of ultrasonic inspections, based on analysis that concluded that initial and repetitive visual inspection intervals are adequate. The manufacturer states that the engineering analysis of field service data did not reveal a specific root cause for the original cracked blade. It is suspected that an unusual circumstance may have been involved, such as an unreported impact with a ground vehicle. However, to ensure the structural integrity of blades in service, initial and repetitive visual

inspections must be done, and, as a result of the analysis, these inspections are being allowed at increased intervals as specified in a new revision to the applicable service bulletin.

The FAA agrees. The engineering data provided to the FAA by the manufacturer indicates there are no specific structural concerns, manufacturing quality issues, or fatigue mechanisms that would justify the need for initial and repetitive ultrasonic inspections, and that an increased repetitive visual inspection interval is appropriate. The inspections were originally proposed by the manufacturer and mandated by the FAA to address an unknown cause for a cracked blade found in service. These inspections were based on a need for a conservative control program as an interim action, while a detailed investigation was performed. As a measure of conservatism, the extended repetitive inspection interval is being retained. The inspection coincides with existing propeller maintenance tasks so as not to create an undue burden while providing additional margin against potential but unanticipated causes for propeller blade cracks. This amendment has been revised to eliminate the ultrasonic inspections, increase the visual inspection intervals, and reference the newly revised service bulletin.

After careful review of the available data, including the comment noted above, the FAA has determined that air safety and the public interest require the adoption of the rule with the changes described previously. The FAA has determined that these changes will neither increase the economic burden on an operator nor increase the scope of the AD.

Economic Analysis

The FAA estimates that there are six propellers of the affected design installed on aircraft of U.S. registry. The FAA also estimates that it would take approximately four work hours per propeller to accomplish a visual inspection, and that the average labor rate is $60 per work hour. A propeller will average three visual inspections per year. Based on these figures for the six propellers, the yearly cost impact for this AD is estimated to be $4,320.

Regulatory Impact

The regulations adopted herein will not have a substantial direct effect on the States, on the relationship between the national Government and the States, or on the distribution of power and responsibilities among the various levels of government. Therefore, it is determined that this final rule does not have federalism implications under Executive Order 13132.

For the reasons discussed above, I certify that this action (1) is not a “significant regulatory action” under Executive Order 12866; (2) is not a “significant rule” under DOT Regulatory Policies and Procedures (44 FR 11034, February 26, 1979); and (3) will not have a significant economic impact, positive or negative, on a substantial number of small entities under the criteria of the Regulatory Flexibility Act. A final evaluation has been prepared for this action and it is contained in the Rules Docket. A copy of it may be obtained from the Rules Docket at the location provided under the caption “ADDRESSES.”

List of Subjects in 14 CFR Part 39

Air transportation, Aircraft, Aviation safety, Incorporation by reference, Safety.

Adoption of the Amendment

Accordingly, pursuant to the authority delegated to me by the Administrator, the Federal Aviation Administration amends part 39 of the Federal Aviation Regulations (14 CFR part 39) as follows:

PART 39 - AIRWORTHINESS DIRECTIVES

1. The authority citation for part 39 continues to read as follows:

Authority: 49 U.S.C. 106(g), 40113, 44701.

§39.13 [Amended]

2. Section 39.13 is amended by removing Amendment 39-11284 (64 FR 47661, September 1, 1999), and by adding a new airworthiness directive (AD), Amendment 39-12143 to read as follows**:**

AIRWORTHINESS DIRECTIVE

Aircraft Certification Service
Washington, DC

U.S. Department
of Transportation
Federal Aviation Administration

We post ADs on the internet at "av-info.faa.gov"

The following Airworthiness Directive issued by the Federal Aviation Administration in accordance with the provisions of Title 14 of the Code of Federal Regulations (14 CFR) part 39, applies to an aircraft model of which our records indicate you may be the registered owner. Airworthiness Directives affect aviation safety and are regulations which require immediate attention. You are cautioned that no person may operate an aircraft to which an Airworthiness Directive applies, except in accordance with the requirements of the Airworthiness Directive (reference 14 CFR part 39, subpart 39.3).

REVISION

99-18-18 R1 Dowty Aerospace Propellers: Amendment 39-12143. Docket 99-NE-43-AD. Revises AD 99-18-18, Amendment 39-11284.

Applicability: Dowty Aerospace Propellers Model R381/6-123-F/5 propellers, installed on but not limited to SAAB 2000 series airplanes.

Note 1: This airworthiness directive (AD) applies to each propeller identified in the preceding applicability provision, regardless of whether it has been modified, altered, or repaired in the area subject to the requirements of this AD. For propellers that have been modified, altered, or repaired so that the performance of the requirements of this AD is affected, the owner/operator must request approval for an alternative method of compliance in accordance with paragraph (c) of this AD. The request should include an assessment of the effect of the modification, alteration, or repair on the unsafe condition addressed by this AD; and, if the unsafe condition has not been eliminated, the request should include specific proposed actions to address it.

Compliance: Required as indicated, unless accomplished previously.

To detect propeller blade cracks and propagation, which if not detected could result in propeller blade separation and possible aircraft loss of control, accomplish the following:

Visual Inspections

(a) Perform initial and repetitive visual inspections of propeller blades for cracks across the camber face in accordance with the Accomplishment Instructions of Dowty Aerospace Propellers Service Bulletin (SB) No. S2000-61-75, Revision 4, dated September 28, 2000, as follows:

(1) Initially, conduct a visual inspection within 50 hours time-in-service (TIS) after the effective date of this AD.

(2) Thereafter, inspect at intervals not to exceed 600 hours TIS since last inspection.

(3) Replace cracked propeller blades prior to further flight with serviceable blades.

(b) [Reserved]

Alternative Method of Compliance

(c) An alternative method of compliance or adjustment of the compliance time that provides an acceptable level of safety may be used if approved by the Manager, Boston Aircraft Certification Office (ACO). Operators shall submit their requests through an appropriate FAA Principal Maintenance Inspector, who may add comments and then send it to the Manager, Boston ACO.

Note 2: Information concerning the existence of approved alternative methods of compliance with this airworthiness directive, if any, may be obtained from the Boston ACO.

Special Flight Permits

(d) Special flight permits may be issued in accordance with sections 21.197 and 21.199 of the Federal Aviation Regulations (14 CFR 21.197 and 21.199) to operate the aircraft to a location where the inspection requirements of this AD can be accomplished.

Incorporation by Reference

(e) The actions required by this AD must be done in accordance with the Accomplishment Instructions of Dowty Aerospace Propellers Service Bulletin (SB) No. S2000-61-75, Revision 4, dated September 28, 2000. This incorporation by reference was approved by the Director of the Federal Register in accordance with 5 U.S.C. 552(a) and 1 CFR part 51. Copies may be obtained from Dowty Aerospace Propellers, Anson Business Park, Cheltenham Road East, Gloucester GL29QN, England; telephone: 44 1452 716000, fax: 44 1452 716001. Copies may be inspected at the FAA, New England Region, Office of the Regional Counsel, 12 New England Executive Park, Burlington, MA, or at the Office of the Federal Register, 800 North Capitol Street, NW, suite 700, Washington, DC.

Effective Date

(f) This amendment becomes effective on April 19, 2001.

FOR FURTHER INFORMATION CONTACT: Kirk Gustafson, Aerospace Engineer, Boston Aircraft Certification Office, FAA, Engine and Propeller Directorate, 12 New England Executive Park, Burlington, MA 01803-5299; telephone: 781-238-7190, fax: 781-238-7199.

Issued in Burlington, Massachusetts, on March 1, 2001.
David A. Downey, Acting Manager, Engine and Propeller Directorate, Aircraft Certification Service.